Attachment 8 Quality Assurance

Quality assurance and quality control measures will be implemented for this project to assure that information gained through this study will be accurate and useful to inform future phases of the project.

Data collected for the Study will be of sufficient quality for purposes of the Study and for use by other stakeholders. Data collection activities for the Study will be performed under the supervision of California licensed Professional Geologists, Certified Hydrogeologists, Professional Engineers, and Land Surveyors. Data collection activities will be performed using widely utilized and proven field, laboratory, and analytical methods and techniques. In addition to oversight and review by licensed professionals, CVWD anticipates that some stakeholders and Task Force members may provide additional review and critique of the data and information collected during the course of the Study.

The following measures will be taken under each task to ensure the quality of the Study:

Task 1: Gauging and verification of surface water flows and water quality in the Verdugo Wash

- Stream gauges to be installed and maintained under direction of a California Professional Engineer and supervised by personnel from Los Angeles County, Department of Public Works (LACDPW). The equipment shall be installed per LACDPW standards and according to standardized practices according to industry standards.
- Surface water sampling and recording of gauge levels will be conducted under the direction of a California Professional Engineer and recorded by CVWD personnel.
- Calibration of field sampling equipment to performed by equipment manufacturer and commercially-purchased standards
- Water Quality Samples - Use of field quality control samples (i.e. duplicates, trip blanks) and chain-of-custody procedures
- Water Quality Samples - Standardized reporting per industry-standard procedures
- Water Quality Samples - Analytical tests shall be performed by an EPA and California Certified Analytical Laboratory and comply California Code of Regulations and Chapter 19 Certification of Environmental Laboratories
- Preparation of a surface water quality report will be completed by a California Professional Engineer.
- Review of the Surface Water Quality Report by Dr. Iraj Nasseri, Professor with the Department of Civil & Environmental engineering at the University of Southern California (USC) and input from the Task Force.

Task 2: Drilling and installing monitoring well(s)

- Geological logging to be completed by a certified hydrogeologist under the direction of a California Professional Geologist according to industry standards.
- Use of standardized decontamination procedures, as documented in the field work plan.

- Calibration of field sampling equipment to commercially-purchased standards.
- Water Quality Samples - Use of field quality control samples (i.e. duplicates, trip blanks, matrix spike analyses) and chain-of-custody procedures
- Standardized logging and reporting per industry-standard procedures
- Water Quality Samples - Analytical tests shall be performed by an EPA and California Certified Analytical Laboratory and comply California Code of Regulations and Chapter 19 Certification of Environmental Laboratories
- Preparation of a Hydrogeological Survey Report will be completed by a California Professional Geologist
- Review of the Hydrogeological Survey Report by Dr. Iraj Nasseri, Professor with the Department of Civil & Environmental engineering at the University of Southern California (USC) and input from the Task Force.

Task 3: Perform percolation tests

- Observation pits will be excavated by a general contractor and according to industry standards and OSHA safety standards
- Soil profile information will be collected by a trained geologist under direction of a California Professional Geologist and California Certified Engineering Geologist according to industry standards
- Percolation tests to be completed by a trained geologist under the direction of a California Professional Geologist and California Certified Hydrogeologist according to industry standards
- Standardized reporting per industry-standard procedures
- Preparation of the Percolation Report will be completed by a California Professional Geologist and Certified Hydrogeologist.
- Review of the Percolation Report by Dr. Iraj Nasseri, Professor with the Department of Civil & Environmental engineering at the University of Southern California (USC) and input from the Task Force.

Task 4: Topographic Survey

- Topographic survey to be conducted by Licensed California Land Surveyor
- Preparation of a topographic survey report will be completed by Licensed California Land Surveyor
- Standardized reporting per industry-standard procedures
- Internal review of the Topographic Survey Report by CVWD prior to review by the Task Force
- Review of the Topographic Survey Report by the Task Force

Task 5: Groundwater Modeling

- Groundwater data acquisition, interpretation:

  - Graphical verification of data through examination of outliers in time series data
  - Map based verification of data through examination of outliers in contoured data

- Use of the groundwater flow model previously developed for CVWD. This model is a U.S. Geological Survey ModFlow based model prepared using the Groundwater Vistas software program.
- Review of the groundwater model and results by a California Professional Geologist and Certified Hydrogeologist.
- Internal review of the Groundwater Modeling Report by CVWD prior to distribution to the task force
- Review of the Groundwater Modeling Report by Dr. Iraj Nasseri, Professor with the Department of Civil & Environmental engineering at the University of Southern California (USC) and input from the Task Force.

Task 6: Environmental and Regulatory Compliance, and Permit Review

- CVWD and consultant will work with Regulating agencies directly to assure the quality of environmental and regulatory compliance and permit requirements
- Review of the Environmental and Regulatory Compliance, and Permits by the Task Force

Task 7: Development of Stormwater Recharge Study

- Stormwater recharge study to be prepared by a California Professional Engineer
- Internal review of the draft Study prior to distribution to the Task Force and DWR
- Review of the draft Study by Dr. Iraj Nasseri, Professor with the Department of Civil & Environmental engineering at the University of Southern California (USC) and input from the Task Force. the Task for and DWR prior to submittal of the final Study

Task 8: Task Force Group

- Quality assurance will be ensured under this task through internal CVWD review of Task Force meeting agendas, notes and handouts prepared prior to each meeting.

Task 9: Administration

- Internal review by CVWD staff will ensure the project is in compliance with the DWR contract.